

REMARKS

This paper is responsive to an Office Action dated July 26, 2005. Prior to this response claims 1-24 were pending. After amending claims 1, 3, 6, 10, 12, 19-22, and 24, and canceling claim 2, claims 1 and 3-24 remain pending.

Section 1 of the Office Action objects to informalities in claims 6 and 20-22. In response, claims 6 and 20-22 have been amended to use the phrase “consisting of”.

Section 3 of the Office Action states that claims 1, 20, and 21, have been rejected under 35 U.S.C. 102(e) as anticipated by Wang et al. (“Wang”; US 6,716,740). The Office Action states that Wang teaches all the recited claim elements. This rejection is traversed as follows.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Wang labels his two-step process a high-density plasma (HDP) chemical vapor deposition (CVD) method. In Step 1, a plasma process is used to heat wafers up to a temperature of at least 300 degrees C, to outgas the wafer. Immediately after Step 1, an interlevel dielectric (IMD), such as silicon oxide, is deposited in Step 2 using a plasma chemical vapor deposition (CVD) process, which Wang also refers to as a plasma-enhanced CVD (PECVD) process (col. 3, ln. 28-39).

Although Wang refers to his process as an HDP method, it is clear that both steps of the process are carried out in a conventional

PECVD chamber (col. 3, ln. 40-58). The novelty of Wang's method is the use of a plasma preheating step, which replaces a N₂O plasma treatment (col. 2, ln. 15-23).

In short, although Wang uses the term "HDP", he is not using the HDP process described by the Applicant. To clarify the Applicant's claims, claim 1 has been amended to include the subject matter of claim 2 (now canceled). The Applicant's HDP process, which now recites an inductively coupled plasma (ICP) source, can be clearly distinguished from Wang's HDP process.

Wang does not describe an HDP process that uses an inductively coupled plasma source, as recited in claim 1. Since Wang does not describe all the limitations of claim 1, he cannot anticipate. Claims 20 and 21, dependent from claim 1, enjoy the same distinctions from the cited art, and the Applicant respectfully requests that the rejection be removed.

In Section 4 of the Office Action claims 1-21, 23, and 24 have been rejected under 35 U.S.C. 102(e) as anticipated by Joshi et al. (US 6,689,646). This rejection is traversed as follows.

35 U.S.C. 102(e) states that:

A Person shall be entitled to a patent unless-

(e) the invention was described in (1) an application for patent, published under section 122(b), *by another* (emphasis added) filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent

In this case, the US 6,689,646 ('646) patent was filed, but not yet granted, before the filing date of the instant application. However, the

'646 patent was not filed by another. One of the inventors of the instant application is also a co-inventor of the '646 patent. Enclosed as Attachment A is the declaration of Pooran Joshi. In his declaration, Dr. Joshi states that he is a co-inventor of the instant application, as well as being a co-inventor of the '646 patent. Since the '646 patent is not an application *by another*, as described in 35 U.S.C. 102(e), the Applicant respectfully requests that the rejection be removed.

In Section 6 of the Office Action claim 22 has been rejected under 35 U.S.C. 103(a) as unpatentable with respect to Joshi et al., in view of Han et al. ("Han"; US 2002/0100554). The Office Action states that Han describes ECR and ICP sources. This rejection is traversed as follows.

An invention is unpatentable if the differences between it and the prior art would have been obvious at the time of the invention. As stated in MPEP § 2143, there are three requirements to establish a *prima facie* case of obviousness.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck* 947 F.2d 488, 20 USPQ2d, 1438 (Fed. Cir. 1991).

The '646 (Joshi et al.) patent is assigned to the same assignee as the instant application. As shown on the first sheet of the published patent, the '646 patent is assigned to Sharp Laboratories of America. The

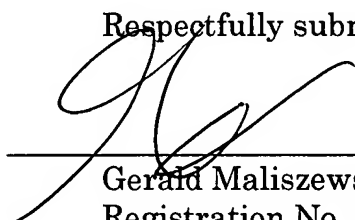
instant application was filed with an Assignment, naming Sharp Laboratories of America as the assignee. A copy of the Assignment is enclosed as Attachment D. Therefore, the '646 application cannot be used as a 35 U.S.C. 103(a) reference (see MPEP 706.02(l)(1) and 706.02(l)(2)).

Han, in paragraph 41, describes ECR and ICP equipment that may be used for manufacturing a ceramic dielectric 20. Since Han does not explicitly describe a process for using such equipment to form an M oxide layer, or suggest modifications to his process that would suggest that such equipment can be used to form an M oxide, the Applicant respectfully requests that the rejection be removed.

It is believed that the application is in condition for allowance and reconsideration is earnestly solicited.

Respectfully submitted,

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